

Amendments to the Drawings

Figure 12 has been added to further illustrate the invention and is now in accordance with 37 CFR 1.83(a).

Attachment: New Sheet

REMARKS

In response to the Office Action mailed May 10, 2005, Applicants respectfully request reconsideration. Claims 1-14 were previously pending in this application. Claims 1, 4, and 8 have been amended. No new claims have been added. As a result, claims 1-14 are pending for examination with claims 1 and 11 being independent. No new matter has been added. The application is believed to be in condition for allowance.

Objections to the Drawings

The Office Action objects to the figures for not showing every feature of the invention specified in the claims. Specifically, the Office Action states claims 4-6 and 11 contain subject matter not featured in the figures.

Figure 12 has been added to illustrate the limitations of claims 4-6 and 11, which may be found in the specification on page 9, lines 6-24, and this includes no new matter. The specification has also been amended in order to include the reference characters in Figure 12.

The drawings are now in accordance with 37 CFR 1.83(a). Accordingly, withdrawal of this objection is respectfully requested.

Objections to the Specification - Title

The Office Action objects to the title of the specification for not being descriptive of the claimed invention. The title has been amended to "Channel Inspection Method." Accordingly, withdrawal of this objection is respectfully requested.

Objections to the Specification - Antecedent Basis

The Office Action objects to the specification for failing to provide proper antecedent basis for the claimed subject matter, specifically for claim 11. Applicants respectfully direct attention to page 9, lines 6-24 of the specification.

Claim 11 is directed towards inserting the sensor into a first opening of the channel (page 9, lines 14-15) and inflating the chamber (page 9, line 16), measuring the response as the sensor is moved through a second channel opening (page 9, line 17-18), inflating the chamber (page 9,

lines 23-24), and measuring the response as the sensor is withdrawn through the first channel opening (page 9, lines 23-24).

Accordingly, withdrawal of this objection is respectfully requested.

Objections to the Claims

The Office Action objects to claims 4-8 and 10 for various informalities.

The Office Action objects to claim 4 for not containing antecedent basis for the term "the second channel opening." Claim 4 has been amended to "a second channel opening."

The Office Action objects to claim 5 for containing steps which are vague as to where the chamber is deflated and how the sensor is inserted into a second opening. In the specification on page 9, lines 20-24, it is clearly explained that once the sensor has passed through and out of the channel, the balloon is deflated and then again placed in the channel, through the second opening, a distance away. The examiner is correct that the sensor is already out of the second opening in claim 4. Claim 5 then recites that the chamber is deflated so that it can be reinserted into that opening.

The Office Action objects to claims 6 and 7 for containing unclear steps as to why only half or one third of the channel length is scanned. In the specification on page 10, lines 5-8, it is clearly explained that half or one third of the channel length is scanned in order to ensure complete coverage of the channel and to provide overlapping measurements over the central region of the channel. Note that it is difficult to inflate and sense at the opening where the sensor is inflated, so two overlapping passes from opposite openings are made.

The Office Action objects to claim 8 for not containing antecedent basis for the term "the scans." Claim 8 has been amended to "first and second scans."

The Office Action objects to claim 10 for being unclear as to how the sensor position is measured. Applicants respectfully submit that the mechanism by which location is measured is not critical, though an encoder is given as an example in the specification on page 3, lines 19-21. Note that the "means" term has been deleted as being inappropriate in a method claim.

Rejections Under 35 U.S.C. §102 and 35 U.S.C. §103

The Office Action rejects claims 1-4 under 35 U.S.C. §102(b) as being anticipated by Dau et al., U.S. Patent No. 5,023,549 (Dau). The Office Action also rejects claims 5-14 under 35 U.S.C. §103(a) as being unpatentable over Dau. Applicants respectfully traverse these rejections.

Dau illustrates an eddy current sensor probe comprising a flexible membrane. The flexible membrane includes indentations comprising sensor supporting regions. A differential pressure is applied across the membrane to position the sensors in a favorable location for collecting data related to the condition of the wall portion of hollow tubes (abstract). The device described by Dau must be kept in a fixed position with respect to both the horizontal and radial directions in order to reduce noise and obtain measurement data that has a meaningful relationship to the condition of the tube being inspected (Col. 3, lines 10-15). Mechanical movement of the eddy current sensor, described by Dau, relative to the interior of the tube during inspection creates noise which may be sufficient to render the inspection data invalid (Col. 3, lines 18-21).

By contrast, claim 1 is directed towards a method for inspecting a channel using a flexible sensor connected to at least one elastic member containing a pressurizable chamber for maintaining the sensor position proximate to a component surface. The method comprises inserting the sensor with a deflated chamber into a first channel opening, inflating the chamber, and measuring the sensor response as the sensor is moved along the channel.

Dau does not teach or suggest measuring the sensor response as the sensor is moved along the channel, as recited in claim 1. Dau instead teaches away from the claimed invention. As discussed above, Dau teaches an eddy current sensor probe which must be kept in a fixed position in order to reduce noise and obtain measurement data that has a meaningful relationship to the condition of the tube being inspected (Col. 3, lines 10-21).

Claims 2-10 depend from claim 1 and patentably distinguish from the prior art of record for at least the same reasons.

Claim 11 is directed towards a method for inspecting a channel using at least one flexible sensor connected to an elastic member containing a pressurizable chamber. The method comprises inserting the sensor into a first opening of the channel and inflating the chamber, measuring the response as the sensor is moved through a second channel opening, deflating the

chamber and inserting the sensor through the second channel opening, inflating the chamber, and measuring the response as the sensor is withdrawn through the first channel opening.

As should be appreciated by the above discussion relating to claim 1, Dau does not teach or suggest measuring the response as the sensor is moved through a second channel opening, as recited in claim 11.

Claims 12-14 depend on claim 11 and patentably distinguish from the prior art of record for at least the same reasons. Accordingly, withdrawal of these rejections are respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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